

**REMARKS**

Rejection under 35 U.S.C. § 102(b) Applicants respectfully traverse the rejection of claims 1, 3, 4, 5, 6, and 7 under 35 U.S.C. 102(b), and request that such rejection be withdrawn. The Xie abstract cited by the Examiner represents the "classical" method of examining how racemic mephenytoin is processed by a population. What Xie teaches is that subjects empty their bladders, are administered racemic mephenytoin, and then for the next eight hours, (time 0-8 hours) urine is collected. At that point, amounts of (S) and (R) mephenytoin are determined.

Applicants respectfully point out that the claimed invention is very different from Xie. The claimed invention provides a method for phenotyping a subject as a "poor" or "extensive" metabolizer with respect to CYP2C19 as set forth in Claim 1:

**Claim 1**

A method for phenotyping a mammalian subject as a poor or extensive metabolizer with respect to CYP2C19 which comprises:

- a.) administering a dose of racemic mephenytoin to said subject;
- b.) waiting for a period of time;
- c.) obtaining a sample of urine, plasma or saliva from said subject; and
- d.) measuring the concentrations of racemic mephenytoin and R and S enantiomers in said sample.

As one can see, in the claimed invention, a sample of urine, plasma or saliva is collected from the subject after waiting for a period of time. Thus, the method of the invention may be performed by taking a single sample of urine, plasma or saliva, after the expiration of a period of time. As set forth in the pending application at page 5, Example 1, a plasma sample at any time between 3 to 8 hours post mephenytoin dose discriminated between extensive and poor metabolizers. Saliva results at any time between 2 to 8 hours post dose discriminated between extensive and poor metabolizers. Urine samples over intervals 2-4, 4-6 and 6-8 hours using S-mephenytoin to S-4-hydroxymephenytoin ratio discriminated between EMs and PMs.



The claimed approach provides a practical approach to screening large numbers of patients conveniently to determine their phenotype as a "poor" or "extensive" metabolizer with respect to CYP2C19. The claimed approach is a different and improved approach to determining the phenotype of a large population as "poor" or "extensive" metabolizers with respect to CYP2C19.

In contrast, Xie teaches a classical method to addressing the phenotype of a population as a "poor" or "extensive" metabolizer with respect to CYP2C19. Xie is a method which is unwieldy for a large number of patients. If Xie were used to screen a large number of patients, urine would have to be collected for 0-8 hours after the racemic mephenytoin was administered, which is a long collection time, for a large number of patients. This approach is not applicable to a large population.

Thus, the claimed invention is readily distinguishable over Xie, and Applicants respectfully request that the rejection of claims 1, 3, 4, 5, 6, and 7 over Xie be withdrawn.

Rejection under 35 U.S.C. § 103(a) Applicants respectfully traverse the rejection of claim 2 under 35 U.S.C. § 103(a), and request that the rejection be withdrawn. As stated hereinabove, Applicants respectfully disagree with the Examiner's assertion that Xie teaches the invention substantially as claimed with the exception of expressly teaching that mephenytoin may be detected in a saliva sample. In this rejection, the Examiner now asserts that Fitzpatrick teaches that it is well known to test for metabolites in serum, saliva, or urine (col. 18, lines 19-26).

The arguments set forth hereinabove in the rejection under § 102(b) regarding Xie are incorporated herein to distinguish the claimed invention over the combination of Xie and Fitzpatrick. Moreover, as regards the Examiner's assertion that Fitzpatrick teaches that it is well known to test for metabolites in serum, saliva, or urine, Applicants respectfully disagree. At the section of Fitzpatrick cited by the Examiner, (col. 18, lines 19-26), the teaching is that metabolites of nicotine, specifically, cotinine and trans-3'-hydroxycontinine, are detectable in the urine, serum or saliva. The Examiner relies on this teaching to assert that metabolites of mephenytoin are detectable in saliva. However, as one of ordinary skill in the art would know, the property of detectability in saliva is a property which is compound-specific. So merely because Fitzpatrick teaches certain metabolites of a certain compound are detectable in the

saliva of a person who injected a drug does not mean that the metabolites of a completely different compound than the one which is taught, in this case, the metabolites of injected mephénytoin, would be detectable in saliva. This is a fact which one of ordinary skill in the art would know in his or her review of Fitzpatrick. Thus, applicants respectfully assert that Fitzpatrick does not teach that metabolites of mephénytoin are detectable in the saliva of a person who injected the compound.

Moreover, there is no teaching in Xie or Fitzpatrick to combine these two references as they have been combined by the Examiner. Thus, one of ordinary skill in the art would not review these two documents and combine them as has been done in this rejection under § 103(a). There is no motivation to combine these two teachings as has been done by the Examiner, and Applicants respectfully request that this rejection be withdrawn.

### **CONCLUSION**

As discussed hereinabove, the claimed invention is distinguishable over Xie on the one hand, and over the combination of Xie and Fitzpatrick on the other hand. Applicants respectfully request that these rejection be withdrawn the claims 1-7 passed to allowance.

A Petition for Extension of time (three months) is attached in duplicate. The Examiner is welcome to contact the undersigned to discuss the application.

Date: \_\_\_\_\_

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Respectfully submitted,



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